

Freight Mobility Strategic Investment Program

Application Form

Project Summary

PROJECT TITLE	
APPLICANT ORGANIZATION Lead Agency: Contact Person: Address: Email:	Agency Number: Title: Telephone: FAX:
PROJECT LOCATION City: County: Legislative District(s):	
IDENTIFY STRATEGIC FREIGHT CORRIDOR on which this project is located. (Attached a detailed vicinity map of the proposed project.)	
PROJECT ADDRESSED IN ANY REGIONAL and/or STATE TRANSPORTATION PLANS <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <input type="checkbox"/> Regional Plan </div> <div style="width: 60%;"> <div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div> <div style="display: flex; justify-content: space-between;"> Name of Plan Date </div> </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 30%;"> <input type="checkbox"/> State Plan </div> <div style="width: 60%;"> <div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div> <div style="display: flex; justify-content: space-between;"> Name of Plan Date </div> </div> </div>	
ATTACHMENTS <input type="checkbox"/> Vicinity Map (required)	
COST SUMMARY Total Project Cost: \$ _____ Freight Mobility Funds Requested: \$ _____	MATCHING FUNDS SUMMARY (must be available at time of obligation) Total Match: \$ _____ Public Sector: \$ _____ % Private Sector: \$ _____ % Total Match Percentage: _____ %

Funding Detail

Partnerships:

<i>Public Sector Match</i>	Anticipated	Committed	Dollars
Lead Agency Funds			
<i>Private Sector Match</i>			
Partnership Total			-

	Total	PE	RW	CN
FMSIB Request				
<i>Public Sector Match</i>				
Lead Agency Funds				
<i>Private Sector Match</i>				
<i>Need</i>				
Total				

Tentative timeframe	Ad Date	Completed	Completed	Completed	CN Start
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Cash Flow Needs:

<i>Dollars (in thousands)</i>	Before 7/01	7/01 - 6/03	7/03 - 6/05	7/05 - 6/07	7/07 - 6/09	TOTAL
<u>P.E. Phase</u> Total						
Freight Mobility						
<u>R.W. Phase</u> Total						
Freight Mobility						
<u>CN. Phase</u> Total						
Freight Mobility						

Freight Mobility TOTAL	\$	%
Partnership TOTAL	\$	%
TOTAL Project Cost	\$	%

Project Narrative

1. Please describe the scope of the freight mobility project and how the project will: (a) reduce barriers to or increase capacity for improved freight movement; and/or (b) mitigate the impacts on local communities of increasing freight movement, including rail and road conflicts. (Reducing barriers or increasing capacity includes: truck climbing lanes, re-alignment and re-routing project to avoid excessive truck climbing grades or general congestion; alternate truck routes; dedicated truck lanes; access into and/or out of ports, inter-modal freight facilities and freight terminals; truck turning lanes; changes in roadway or intersection geometry to better accommodate trucks; increasing weight limits; and the use of Intelligent Transportation Systems (ITS). Mitigation includes grade separations, mitigating impacts of increasing truck and/or railroad traffic to a community and can be the use of ITS.) _____

[illegible]

Project Narrative

2. What is the reduced truck delay that will result from the freight project?

Step 1: Calculate the current truck delay (without the proposed project):

Current Average Daily Traffic ADT (A) _____ Vehicles/day
 Current delay per vehicle _____ Minutes/60 = (B) _____ Hours
 Current percentage of trucks (%T) _____ %/100 (C) _____
 Current truck delay in hours = (D) = (A) x (B) x (C) (D) _____
 Hours

Step 2: Calculate the projected truck delay (with proposed improvement):

Projected Average Daily Traffic (ADT) (E) _____ Vehicles/day
 Projected delay per vehicle: _____ Minutes/60 (F) _____ Hours
 Projected percentage of trucks (%T) _____ %/100 (G) _____
 Projected truck delay in hours = (H) = (E) x (F) x (G) (H) _____ Hours

Step 3: Calculate the reduction in truck delay as a result of the proposed improvement

Reduced truck delay = (I) = (D) – (H) or zero if calculated value is less than zero. (I) _____ Hours

3. If this project reduces train delay, please show the savings per train, the number of trains, and the average train length? _____

[illegible]

4. What is the improvement in the volume to capacity ratio (v/c) for truck movements?

For determination of truck volume to intersection capacity ratio for intersection improvements, go directly to Step 4, skipping Steps 1 through 3.

Step 1: Calculate the current peak hour truck volume:

Current peak volume: (A) _____ Vehicles/Hour
 Current percentage of trucks (%T) _____ % / 100 (B) _____
 Current peak hour truck volume = (C) = (A) x (B) (C) _____ Truck/Peak Hour

Project Narrative

4. What is the improvement in the volume to capacity ratio (v/c) for truck movements? (continued)

Step 2: Convert the peak hour truck volume to Passenger Car Equivalents:

Factor for converting trucks to Passenger Car Equivalents (PCE) (D) _____

Use a factor of 1.5 except for the following conditions:

- For upgrades use the value from Table 3-4 of the Highway Capacity Manual using the specific site conditions.
- For downgrades use the value from Table 3-6 of the Highway Capacity Manual using the specific site conditions:

Passenger Car Equivalents = (E) = (C) x (D): (E) _____ PCE's/Peak Hour

Step 3: Determine the current facility capacity (without the proposed project):

Highway capacity value from the Highway Capacity Manual: (F) _____ PCPHPL

- For multilane highways, use the value from Figure 7-1 for the posted speed and LOS D.
- For basic freeway sections on four-lane freeways, use Figure 11.3-1 for the posted speed and LOS D.
- For basic freeway sections on six or more lane freeways use the value from Figure 7-1 for the posted speed and LOS D.

Number of current lanes in the direction of peak hour flow: (G) _____ Lanes

Current Capacity = (H) = (F) x (G): (H) _____ PCPH

Step 4: Determine the current truck volume to capacity ratio:

For Intersections:

This value (I) is typically computed using computer software. Developed for this purpose, or can be hand calculated using the procedure established in the Highway Capacity Manual. (Chapter 9 for signalized intersections, or Chapter 10 for un-signalized intersections).

(I) _____

Intersection truck v/c: (J) = (I) x (B) (J) _____

OR

For Highways: Highway truck v/c (J) = (E) / (H) (J) _____

Step 5: Determine the projected truck volume to capacity ratio using the methods presented in the above Steps 1 through 4, only using the conditions and factors with the proposed improvements in place. (K) _____

Step 6: Improvement to v/c for trucks = (L) = (J) – (K) or zero, if the calculated value is less than zero. (L) _____

Project Narrative

5. **If this project increases the capacity of train movements during peak periods, please describe and give information on current capacity and the amount of improvement.** _____

6. **What is the significance of this project to the regional economy? Describe the project's impact on the regional freight transportation system and the regional economy (i.e., nature of the improvement and principal freight moved; improved intra-regional and inter-regional freight movement in terms of products, industries and direct employment; improved freight movement and access to domestic and international markets in terms of freight, industries and direct employment; benefits to other regional industries; and access and links to intermodal connections and facilities.)** _____

7. **What is the significance of this project to the state economy? Describe the project's impact on the state (outside the region) freight transportation system and the state (outside the region) economy. (i.e., improved intrastate freight movement in terms of products, industries and direct employment; improved freight movement to domestic and international markets in terms of freight, industries and direct employment; and benefits to other state industries.)** _____

Project Narrative

8. Does the project improve the freight movement for direct port access or across an international border? ☐ No ☐ Yes Explain. _____

9. Is this project part of a regional corridor solution or major system improvement? Is your regional planning council supportive of the project? Describe. _____

10. What is the reduced vehicular traffic delay of all vehicles?

Step 1: Calculate the current delay (without the proposed project):

Current Average Daily Traffic (ADT) (A) _____ Vehicles/day

Current delay per vehicle _____ Minutes/60 = (B) _____ Hours

Current vehicle delay in hours = (C) = (A) x (B) (C) _____ Hours

Step 2: Calculate the projected delay (with the proposed improvement):

Projected Average Daily Traffic (ADT) (D) _____ Vehicles/day

Projected delay per vehicle _____ Minutes/60 = (E) _____ Hours

Projected vehicle delay in hours = (F) = (D) x (E) (F) _____ Hours

Step 3: Calculate the reduction in vehicle delay as a result of proposed improvement.

Reduced vehicle delay = (G) = (C) – (F) or zero if calculated value is less than zero.

(G) _____ Hours

Project Narrative

11. What is the reduced queuing and backups as a result of this project?

Step 1: Calculate the current queuing (without the proposed project).

Using the Watson Equation: $Q = V \times R$

Q = Average queue length (in number of vehicles per lane)

V = volume expressed in ADT divided by number of lanes in one direction

R = Percentage of time per day either the crossing is closed or vehicles are stopped at a crossing.

Current Average Daily Traffic (ADT)

(A) _____ Vehicles/day

Number of lanes in one direction

(B) _____ Lanes

$$\text{Volume} = (C) = (A) / (B)$$

(C) _____ Vehicles/lane

Current closure or stoppage time either measured or calculated

(D) _____ %

Average queue length (E) = (C) x (D)

(E) _____ Vehicles/lane

Step 2: Calculate the projected queuing with the proposed improvement:

Projected Average Daily Traffic (ADT)

(F) _____ Vehicles/day

Number of lanes in one direction with proposed improvements

(G) _____ Lanes

$$\text{Volume} = (\text{H}) = (\text{F}) / (\text{G})$$

(H) _____ Vehicles/lane

Projected closure or stoppage time either measured or calculated

(I) _____ %

Average queue length (J) = (H) x (I)

(J) _____ Vehicles/lane

Step 3: Reduction in queuing = (K) = (E) – (J) or zero,
if calculated value is less than zero.

(K) _____ Hours

12. What is the time to travel to an unobstructed crossing (in minutes)? _____

13. Is the project on a designated urban principal arterial?

☐ **No**☐ **Yes**

14. Have there been any accidents at the project location that this freight project will help reduce?

☐ **No**☐ **Yes**

☐ No ☐ Yes, summarize the 5-year accident history (separating railroad crossing accidents and non-railroad crossing accidents) and explain how the project will reduce each type of accidents.

Project Narrative

15. Is the project located on an essential emergency vehicle access route? ☐ No ☐ Yes
Describe. (i.e., fire, police, ambulance, school bus route and include closest alternative emergency access) _____

16. Does this project result in additional road/rail closures? How many and where.
☐ No ☐ Yes _____

17. How does the project benefit mainline rail operations (i.e., increases train speed, improves train access to terminals, etc.)? Describe. _____

18. Does the project improve access to key employment areas? ☐ No ☐ Yes Describe and include the number of employees affected by the access. _____

19. If, as a result of this improvement, train speed limits are planned to be increased, will the applicant be supportive? ☐ No ☐ Yes Describe level of support. _____

Project Narrative

20. Is the project located in a non-attainment area for air pollution control? ☐ No ☐ Yes
21. How many sensitive receptor sites are affected by the reduction in train whistle noise in the vicinity of the grade separation? (Vicinity is identified as a quarter of a mile up and down the track and 600 feet each side of centerline. Sensitive receptor sites include residences, schools, churches, hospitals, hotels and motels, each counted as individual facilities.) _____

22. Why is it important to get this project underway within the next year (i.e., available funding, project impacts or other critical timing issues.)? _____

23. Are there environmental impacts of the project, which may affect implementation (i.e., displaced businesses or residences, wildlife refuge, water quality, etc.)? ☐ No ☐ Yes
Explain. _____

Project Narrative

24. What is the cost-effectiveness of the project?

Calculate the cost effectiveness of this project, using the equation:

$$\text{Cost Effectiveness} = \text{Reduced Delay} / \text{Cost}$$

Step 1: Reduced Truck Delay (A) = (I) from Question 2 (A) _____ Hours

Step 2: If available, from Question 3, train delay (B) is equal to the average delay per train car times the average number of train cars per day. (B) _____ Hours

Step 3: Cost (C) = Total cost for proposed improvement, including engineering/design, right of way, construction and contingencies. (C) _____ Millions

Cost Effectiveness (D) = ((A)+(B)) / (C) (D) _____ Hours / \$M

25. Describe the degree to which least-cost alternatives were analyzed and considered for this project. _____

26. Describe the uniqueness of this project based on factors not addressed by previously asked questions. _____
